

REMARKS

Claims 1-5 and 7-35 are currently pending, with claims 14-25 being withdrawn from consideration. Claims 1 and 11 have been amended to indicate that the antenna based device is "battery-less". Support for this amendment is found, in part, on page 11 and 12 of the specification that indicates that the antenna based device is powered by converting oscillating current from received electromagnetic radiation and converting it to electrical power. No use of a battery is taught by any disclosure in the specification for the antenna based device. Applicant submits that no new matter has been added.

The claims of the application stand variously rejected. Claims 1-2, 5, 7-9, 11-13, 32 and 35 stand rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 5,411,535 issued to Fujii et al. (hereinafter "Fujii"). Claims 1-5, 7-9, 11-13, 32 and 35 stand rejected under 35 USC § 102(b) as being anticipated by U.S. Patent No. 5,626,630 issued to Markowitz (hereinafter "Markowitz"). Claims 1-5, 7-13, 26-31 stand rejected under 35 USC § 103(a) as being obvious over U.S. Patent No. 5,967,986 issued to Cimochoowski (hereinafter "Cimochoowski") in view of Markowitz or U.S. Patent No. 5,861, 019 issued to Sun et al. (hereinafter "Sun"), or Fujii. Claim 32 stands rejected under 35 USC § 103(a) as being unpatentable over Cimochoowski in view of Markowitz or Sun in further view of U.S. Patent No. 5,170,802 issued to Mehra (hereinafter "Mehra"). Applicant traverses these rejections for at least the following reasons.

Rejections under 35 USC § 102(b) over Fujii

Claims 1-2, 5, 7-9, 11-13, 32 and 35 stand rejected under 35 USC § 102(b) as being anticipated Fujii. The Manual of Patent Examining Procedure "MPEP" states that, in order to anticipate a claim, a reference must teach every element of the claim:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)." See MPEP § 2131

Applicant submits that the Fujii reference fails to disclose each and every element of claims 1-2, 5, 7-9, 11-13, 32 and 35.

Claim 1, as amended herein, recites:

“A system for transmission of power between a first location external of a living body and a second position internal of the living body which comprises:

(a) a primary controller comprising a power source and a transmitter, locatable at the first location; and

(b) an antenna based battery-less device locatable at the second position to receive an output from the transmitter,

wherein the power source is adapted to emit high frequency electromagnetic radiation between 0.5 to 5 GHz; and

wherein, in use, the antenna based device converts the transmitted power to electrical energy which is used to operate the antenna based device, and

wherein the primary controller and the antenna based device do not communicate by inductive coupling.” See claim 1, emphasis added.

Claims 2, 5, 7-9, 32 and 35 depend from claim 1, and therefore contain the limitation of “an antenna based battery-less device”. Claim 11, as amended, also contains the limitation of “a battery-less antenna.” Claims 12-13 depend from claim 11, and therefore also incorporate this limitation.

The Fujii reference fails to disclose an “antenna based battery-less device locatable at [a] second position to receive an output from the transmitter.” The Fujii reference is directed towards a cardiac pacemaker having a main body 100 that is locatable in a first location, and a pacing electrode 120 that is positioned at a second location. The Examiner asserts that the pacing electrode is analogous to the antenna based device set forth in claims 1 and 11. Fujii discloses however that:

“The pacing electrode 120 has a receiving section 122, a demodulating section 123, an electrode section 125 and a battery 124. The transmission wave transmitted from the main body is received by the receiving section 122 and the received waveform is supplied to the demodulating section 123 which conducts energy conversion into voltage which is applied to the electrode portion 125. The

battery section 124 supplies electrical power both to the receiving section 122 and the demodulating section 123.” See lines col. 6, 44-53 of Fujii, emphasis added.

Fujii clearly indicates that the remote pacing electrode unit 120 includes a battery that supplies power to the receiving section 122 of the pacing electrode. Fujii fails to teach or suggest any separate antenna based device that can function without a battery.

As the Fujii reference fails to teach all of the elements of claims 1-2, 5, 7-9, 11-13, 32 and 35, it fails to anticipate these claims. Applicant respectfully requests that the Examiner withdraw the rejections to these claims based on this ground.

Rejections under 35 USC § 102(b) over Markowitz

Claims 1-5, 7-9, 11-13, 32 and 35 stand rejected under 35 USC § 102(b) as being anticipated by Markowitz. Applicants respectfully submit that Markowitz fails to anticipate claims 1-5, 7-9, 11-13, 32 and 35 of the present invention, as it fails to disclose all of the limitations of the claims.

As discussed above, claims 1 and 11 as amended contain the limitation of a “battery-less” antenna based device. Claims 2-5, 7-9, 12-13, 32 and 35 depend directly or indirectly on claims 1 or 11 and therefore also contain the limitation of a “battery-less” antenna based device. Markowitz fails to disclose such a limitation.

Markowitz is directed towards a medical telemetry system using an implanted transponder. The Examiner argues that the implanted transponder is analogous to the antenna based device set forth in claims 1 and 11. Markowitz discloses that FIG. 3 shows “a perspective view of the implanted device showing the placement of a novel transponder thereon.” See col. 2, lines 53-54 of Markowitz. Markowitz goes on to disclose that the implanted device contains:

“a microprocessor-based heart rhythm detection and processing circuitry, heart rhythm control circuitry and an extremely long-life (e.g., 10 years) battery, labeled as pacemaker circuitry 34 in FIG. 3.” See col. 4, lines 60-64 of Markowitz, emphasis added.

Markowitz clearly indicates that the implanted device includes a battery. Furthermore, Markowitz even discloses that such a battery can be recharged in one embodiment by the transponder circuitry 26 including an optional battery charging circuit. See col. 9, lines 39-40 of

Markowitz. Markowitz, therefore, clearly envisions a battery to be used in the implanted device and therefore fails to disclose any separate antenna based device that can function without a battery.

As the Markowitz reference fails to teach all of the elements of claims 1-5, 7-9, 11-13, 32 and 35, it fails to anticipate these claims. Applicant respectfully requests that the Examiner withdraw the rejections to these claims based on this ground.

Rejections under 35 USC § 103(a) over Cimoichowski in view of Markowitz or Sun or Fujii

Claims 1-5, 7-13 and 26-31 stand rejected under 35 USC § 103(a) as being obvious over Cimoichowski in view of Markowitz, or Sun, or Fujii. The MPEP states that:

“To establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970).” See MPEP § 2141.03

Applicant respectfully submits that the Office Action has failed to put forth a *prima facie* case of obviousness, as the combined references of Cimoichowski, Markowitz, Sun and Fujii alone or in combination, fail to teach or suggest all of the limitations of claims 1-5, 7-13, 26-31.

As discussed above, claims 1 and 11 as amended contain the limitation of a “battery-less” antenna based device. Claims 2-5, 7-10, 12-13, and 26-31 depend directly or indirectly on claims 1 or 11 and therefore also contain the limitation of a “battery-less” antenna based device. As further discussed above, both the Fujii and Markowitz references fail to teach or suggest such a limitation.

The Cimoichowski reference also fails to teach or suggest a “battery-less” antenna based device. The Cimoichowski reference is directed at a stent having an RF antenna 30 that is energized from an external power source. Cimoichowski discloses that an embodiment of the RF antenna includes:

“a battery or a capacitor for storing energy so that it need not be energized when monitoring the flow status, or at least, should include sufficient storage capability for at least one cycle of receiving energy and transmitting data relating to the

parameter being monitored.” Col. 7, lines 43-48 of Cimcochowski, emphasis added.

With respect to the capacitor, the embodiment disclosed is one which relies on communication by inductive coupling, that is, there is magnetic inductive coupling when the external coil is lined up with the stent which has been implanted relatively close to the surface of the skin. See col. 12, lines 50-51 of Cimochowski. Both claims 1 and 11 contain the limitation that “the primary controller and the antenna based device do not communicate by inductive coupling.” The Cimcoshowski reference fails to teach or suggest any antenna based device that fails to contain a battery and communicates with a primary device other than inductive coupling.

The Sun reference also fails to teach or suggest a “battery-less” antenna based device. The Sun reference is directed towards an implantable medical device with an RF antenna. Sun discloses that “Power efficiency is another important criterion for an implantable telemetry system because of the limited battery energy in the implantable medical device.” See col. 12, lines 15-17 of Sun. Sun, therefore, clearly envisions that the implantable medical device includes a battery as a power source. The Sun reference contains no teaching or suggestion of any “battery-less” antenna based devices.

As the cited prior art references, alone or in combination, fail to teach or suggest all of the limitations of claims 1-5, 7-13 and 26-31, the Office Action has failed to put forth a *prima facie* case of obviousness with respect to the claims. Applicant, therefore, respectfully requests that the Examiner withdraw the rejections to these claims based on this ground.

Rejections under 35 USC § 103(a) over Cimochowski in view of Markowitz or Sun in view of Mehra

Claim 32 stands rejected under 35 USC § 103(a) as being unpatentable over Cimochowski in view of Markowitz or Sun in further view of Mehra. Applicant submits that the Office Action has failed to put forth a *prima facie* case of obviousness with respect to claim 32, as all of the claim limitations have not been taught or suggested by the cited prior art references, alone or in combination.

Claim 32 depends from claim 1. As discussed above, claim 1 has been amended to include the limitation of a “battery-less” antenna based device. Also as discussed above, the

Cimochowski, Markowitz and Sun references fail to teach or suggest a “battery-less” antenna based devices that operate without inductive coupling to a primary device.

The Mehra reference also fails to teach or suggest a “battery-less” antenna based device. The Mehra reference is directed towards an implantable stent electrode located within a blood vessel. The stent electrode is coupled to an elongated insulated conductor. See col. 2, lines 37-41 of Mehra. The stent electrode is therefore physically connected by a wire to the pacemaker device, and is thus powered by this device (and the battery in the pacemaker device). The Mehra reference contains no teaching or suggestion of “an antenna based battery-less device locatable at the second position to receive an output from the transmitter” wherein “in use, the antenna based device converts the transmitted power to electrical energy which is used to operate the antenna based device.”

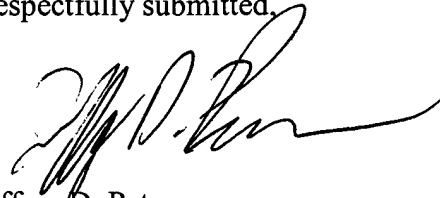
As the cited prior art references, alone or in combination, fail to teach or suggest all of the limitations of claim 32, the Office Action has failed to put forth a *prima facie* case of obviousness with respect to the claim. Applicant, therefore, respectfully requests that the Examiner withdraw the rejection to this claim based on this ground.

SUMMARY

Based on the foregoing, Applicant respectfully submits that the present application is in condition for allowance, and a favorable action thereon is respectfully requested. Should the Examiner feel that any other point requires consideration or that the form of the claims can be improved, the Examiner is invited to contact the undersigned at the telephone number listed below.

Appl. No. 09/786,252
Amtd. dated September 15, 2005
• Reply to Office action of July 12, 2005

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'J.D. Peterson', with a long horizontal flourish extending to the right.

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